The status of the nomen *Rana (Paa) dhakuriensis* Ray, 1997 (Anura, Ranidae), and comments on the Amphibia reported from the Nanda Devi Biosphere Reserve (Uttar Pradesh, India)

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The nomen *Rana (Paa) dhakuriensis* Ray, 1997 was published without any character allowing to recognize the taxon and is therefore a nomen nudum. The status of the Amphibia reported by RAY (1997) from the Nanda Devi Biosphere Reserve, under this nomen and seven others, is briefly discussed.

DUBOIS et al. (2005: 45) included the nomen *Rana dhakuriensis* Ray, 1997 in their list of recent amphibian taxonomic additions, without having had the opportunity to see the original publication where this nomen had been created. Examination of this paper shows that this new nomen was proposed for a taxon that was not described or diagnosed in any way. Here is an integral copy of the part of this text dealing with this purported new species: "Morphologically differs from all other species known from the neighbouring areas. Cryptic colouration perfectly camouflaged these individuals with the natural surroundings. Detailed description will be published after thorough study of the material". There is in this text no "description or definition that states in words characters that are purported to differentiate the taxon", or mention of "a bibliographic reference to such a published statement", so that this nomen is a nomen nudum according to Article 13.1 of the *Code* (ANONYMOUS, 1999). One could at first sight consider "cryptic coloration" as a "character" of the species, but it is not, as would be mention of a colour (brown, green, etc.): it is just an interpretation of what in the eyes of a human this frog looks like, but it does not describe it. We are not aware that any "detailed description" of this taxon was published later on, so that this nomen has no status in zoological nomenclature. The question may arise, however, for which taxon was this new nomen coined, and in which synonymy, if any, should the latter be placed. As Pranjalendu

Ray does not seem to have commented again on the Nanda Devi amphibian fauna in subsequent works, and as the specimens are presumably kept in the Dehra Dun station of the Zoological Survey of India which we did not have the opportunity to visit, all we can do is to start from the information provided in RAY (1997).

To the best of our knowledge, the Amphibia of the Nanda Devi Biosphere Reserve Park (Uttar Pradesh, India; quite close to the western border of Nepal) had never been studied before the work of RAY (1997), so that a priori one could consider plausible the discovery of a new species in this area. But this possibility is slight, regarding the uncertainties of the taxonomy of amphibians used in this publication, as shown below. Based on collections including 13 adults, one juvenile and 349 tadpoles, RAY (1997) reported 8 species from this reserve, under the following nomina: (1) *Bufo himalayanus* Günther, 1864; (2) *Bufo melanostictus* Schneider, 1799; (3) *Megophrys* sp., (4) *Amolops* sp.; (5) *Rana (Paa) annandalii* Boulenger, 1920, (6) *Rana (Paa) blanfordii* Boulenger, 1882; (7) *Rana (Paa)* sp., (8) *Rana (Paa) dhakuriensis* n. sp. We comment below on these reports following the generic taxonomy.

Bufo Laurenti, 1768

The presence of the two species of *Bufo* reported by RAY (1997) is likely in this area, as both these species occur in Nepal (DUBOIS, 1976, 1980, 1981, 2000) and in the Indian western Himalayas as far West as Jammu and Kashmir (DUBOIS & MARTENS, 1977, DUBOIS, 1980, 1981). The brief notes of RAY (1997) suggest that his identification of the specimens was correct.

According to the proposals of DUBOIS (1988, 2004*b*), in zoology two species liable to hybridize successfully, either in the field or in artificial conditions, and to provide genuine adult hybrids (at least in some cases), should never be allocated to different genera (but may be placed in different subgenera). Adopting this point of view, we cannot follow the suggestion of FROST et al. (2006) to dismantle the genus *Bufo* into several genera between which some species are known to hybridize (BLAIR, 1972). For example, successful hybridization until the adult stage is known to occur (at least in some cases, as "best result") between species belonging in FROST's et al. (2006) genera *Anaxyrus* Tschudi, 1845 and *Bufo* Laurenti, 1768 (e.g., *Bufo bufo* and *Bufo woodhousii*, see BLAIR, 1972: 420), *Anaxyrus* and *Cranopsis* Cope, 1875 (e.g., *Bufo terrestris* and *Bufo valliceps*, see BLAIR, 1941 and MOORE, 1955, or *Bufo fowleri* and *Bufo valliceps*, see BLAIR in MOORE, 1955), *Bufo* and *Pseudepidalea* Frost et al., 2006 (e.g., *Bufo bufo* and *Bufo viridis*, see HEMMER & BÖHME, 1974), *Epidalea* Cope, 1864 and *Pseudepidalea* (e.g., *Bufo calamita* and *Bufo viridis*, see FLINDT & HEMMER, 1967, HEMMER, 1973, SCHLYTER et al., 1991). It also probably occurs between *Bufo* Laurenti, 1768 and *Epidalea* Cope, 1864 (*Bufo gargarizans* [as *asiaticus*] and *Bufo raddei*, according to CHEN, 1940), if, as suggested by the data of STOCK et al. (2001), the species *Bufo raddei* belongs indeed in the *Epidalea* group rather than in the *Pseudepidalea* group as tentatively proposed by FROST et al. (2006). According to the cladogram of FROST et al. (2006: 218), following DUBOIS's (2004*b*) guidelines and in order not to recognize paraphyletic genera, placing *Bufo bufo* and *Bufo viridis* in the same genus requires to include also in the latter not only all other species of FROST et al.'s (2006) genera *Bufo* and *Pseudepidalea*, but also all species of their genera *Ametophrynus*, *Anaxyrus*, *Chaunus*, *Cranopsis*, *Duttaphrynus*, *Epidalea*, *Mertensophryne*,

phryne, *Peltophryne* and *Vandijkophrynus*. It is however possible, if one wishes to recognize taxonomically these "subclades" as taxa, to give them the status of subgenera of the genus *Bufo*. Under this arrangement, the two indian species mentioned above can be referred to the subgenus *Duttaphrynus* Frost et al , 2006 (type-species by original designation *Bufo melanostictus* Schneider, 1799) and can therefore be known as *Bufo (Duttaphrynus) himalayanus* Günther, 1864 and *Bufo (Duttaphrynus) melanostictus* Schneider, 1799. Another advantage of this solution is that it does not require to change the well-known binomen of the latter species (*Bufo melanostictus*), one of the most quoted nomina of amphibians in the world, being one of the commonest species in Asia

Xenophrys Günther, 1864

The use of the generic nomen *Megophrys* Kuhl & Van Hasselt, 1822 is now restricted to frogs of the Sunda islands, and the related species of the Himalayas are now referred to the genus *Xenophrys* Günther, 1864 (FROST et al., 2006, DELORME et al., 2006). A single species of this genus, *Xenophrys parva* (Boulenger, 1893), is known to occur in the western part of Nepal. The westernmost locality for which referenced voucher specimens have been reported so far (DUBOIS, 1974) is Ghasa (28°37'N, 83°38'E, alt. 2050-2100 m). In ANDERS's (2002: 167) distribution map of the species, a dot indicates its presence in a locality of the extreme western part of the country, close to the border of Uttar Pradesh, but as the book of SCHLEICH & KÄSTLE (2002) provides no reference to collection numbers of voucher specimens examined, and as the amphibian taxonomy used in this book is not reliable (as it contains gross misidentifications of specimens, see DUBOIS, 2004*a*), the validity of this record is open to question. Regarding the specimens from the Nanda Devi reported by RAY (1997: 110), they are stated to consist in "one hundred forty tadpoles of different stages" and mention is made of their "Funnel type mouth feeding from the surface material and tail flickering continuously under water", a brief description which clearly points, indeed, to a species of the genus *Xenophrys*. Pending obtention of adults from this area, the most parsimonious attitude is to refer these specimens to *Xenophrys parva*. This is a genuine addition to the amphibian fauna of Uttar Pradesh, and indeed an important range extension to the West, not only for this species, but also for the genus *Xenophrys* and for the subfamily Megophryinae as defined by DELORME et al. (2006).

Amolops Cope, 1865

In contrast, the genus *Amolops* has long been known from the western Himalayas (ACHARJI & KRIPALANI, 1951; KRIPALANI, 1952). It is represented there by at least two distinct species, now known (DUBOIS, 1974, 1992, 2000) as *Amolops formosus* (Günther, 1875) and *Amolops marmoratus* (Blyth, 1855). Both these species are present from eastern to western Nepal (DUBOIS, 1974, 1976, 2000) and in the western Himalayas as far west as Himachal Pradesh (DUBOIS, 1981). A third species of this genus, *Amolops monticola* (Anderson, 1871), is known from eastern Nepal but has not yet been reported in this country west of the Arun valley (DUBOIS, 1980). The material from Nanda Devi reported by RAY (1997) consists in 13

tadpoles with ventral abdominal sucker, which therefore most likely belong in this genus, but specific allocation is unknown. In another work on the amphibians of the Dehra Dun district (Uttar Pradesh), RAY (1992) described two new species: *Amolops chakrataensis* (apparently very similar to *Amolops monticola*) and *Amolops jaunsari* (apparently quite similar to *Amolops marmoratus*). Both these species were redescribed as new by RAY (1999), in a paper erroneously considered to provide their original descriptions by DUBOIS et al. (2005). The validity of both these species will have to be confirmed by comparative studies in the frame of a comprehensive revision of the genus *Amolops*, which is badly needed to solve the problems left aside or created by the work of YANG (1991) on this genus. Although tadpoles of these frogs can rather easily be collected in large numbers, e.g. by drying up portions of the torrents where they live, adults are usually nocturnal, secretive, and they rarely leave the torrent bed: to find them in significant numbers one has to climb slowly within the bed of the torrent at night with head lamps or torchs. They are therefore quite seldom collected during standard surveys of amphibians which are often made mostly around villages, in open habitats like paddy fields, and at day time. Thus, these frogs are poorly known, and herpetologists who incidentally collect them may consider them as new without making appropriate comparisons. Combined with the rather high intraspecific variability of several species of this genus, this probably explains the existence of many synonyms for some of them, including *A. formosus* and *A. marmoratus* (DUBOIS, 1974, 2000), and ignoring some of these synonymies without providing new data, as done by some recent authors (YANG, 1991, ANDERS, 2002; FROST et al., 2006) is not likely to help our understanding of the taxonomy of this genus (see appendix 1).

Chaparana Bourret, 1939

The most problematic aspect of the paper of RAY (1997) is the taxonomy used for the frogs referred to the subgenus *Rana* (*Paa*), including the so-called new species. This subgenus is now included in the genus *Chaparana* Bourret, 1939 (OHLER & DUBOIS, 2006), and it has been the matter of several important works since the monography of BOULENGER (1920) which seems to have been used as the basic taxonomic reference for RAY's (1997) work.

Neither species *Chaparana annandalii* (Boulenger, 1920) and *Chaparana blanfordii* (Boulenger, 1882) can be present in the Nanda Devi region. These are East Himalayan species, which both occur only east of the Arun valley in eastern Nepal, in north-eastern India, and, only for the second species, Bhutan (DUBOIS, unpublished) and southern Xizang (Tibet) in China (DUBOIS, 1976, 1979, GROSJEAN & DUBOIS, 2006).

RAY's (1997) report of *Rana blanfordii* in the reserve was based on 7 "examples" (adults?) and 73 tadpoles, but no diagnostic characters were mentioned allowing to support their identification. The specimens from Mussoorie (now in Uttar Pradesh) and the Balaya valley near Simla (now in Himachal Pradesh) referred by BOULENGER (1920: 84) to *Rana blanfordii* were shown by DUBOIS (1975, 1976) to be members of the species *Chaparana minica* (DUBOIS, 1975). This is a small species (SVL ♂ 28.5-35.0 mm, ♀ 30.5-41.0 mm, DUBOIS, 1976), which could possibly be mistaken for *Chaparana blanfordii* (SVL ♂ 36.0-40.5 mm, ♀ 41.0-48.0 mm, DUBOIS, 1976). The occurrence of *C. minica* is likely in the Nanda Nevi region, since it was reported both east and west of the Park (DUBOIS, 1976, 1992, TIAK & RAY, 1985, as *Rana* (*Paa*) *tuberculata*), but it only occurs at rather low altitudes (1000-2440 m, DUBOIS, 1976), so

it may only be present in the lowest parts of the Park whose elevation range spreads from 1500 to 5600 m.

RAY's (1997) report of *Rana annandalii* in the Nanda Devi was based on a single juvenile, and its identification was stated to be "based on descriptive morphology described by BOULENGER (1920)", without further details. *Chaparana annandalii*, which has never been reported from west of Nepal, is similar in size to *C. blanfordii* or a little larger (SVL ♂ 32.5-51.5 mm, ♀ 40.0-50.5 mm, DUBOIS, 1976). It could possibly be confounded with *Chaparana rarica* (Dubois, Matsui & Ohler, 2001), which is of similar size (SVL ♂ 37.3-45.6 mm, ♀ unknown) and rather similar aspect (DUBOIS & MATSUI, 1983). For the time being, the latter is known with certainty only from one locality in western Nepal, the lake Rara (29°31'N, 82°05'E; alt. 2990 m). The second locality mentioned by ANDERS (2002: 285, 1052), Gurja Ghat, is based on 7 specimens referred with doubts to this species by NANHOE & OUBOTER (1987), the status of which is not clear. The discovery of this species in Uttar Pradesh would be an interesting range extension and would add one species to the fauna of India.

Beside the two species above, RAY (1997) reported two other samples of *Paa* from the Nanda Devi reserve: 100 tadpoles as *Rana (Paa)* sp., and 6 "examples" (adults?) as "*Rana (Paa) dhakuriensis*" (nomen nudum). Could these specimens represent still one or two other species of *Chaparana*?

Three other species of *Chaparana* have been reported so far from the regions neighbouring the reserve. *Chaparana vicina* (Stoliczka, 1872), *Chaparana polunini* (Smith, 1951) and *Chaparana ercepeae* (Dubois, 1974). *Chaparana vicina* is known from northern Pakistan, Jammu & Kashmir and Himachal Pradesh (DUBOIS, 1980, GROSJEAN & DUBOIS, 2006), and its finding in the Nanda Devi would be an important range extension to the East. *Chaparana polunini* has so far been reported only from Nepal, from the East (west of the Arun valley) to the extreme West of the country (DUBOIS, 1976), and from southern Xizang (China), at altitudes between 2610 and 3990 m (DUBOIS, 1979). Its discovery in the Nanda Devi would be a modest extension of its range to the West, but a new species record for India. Finally, *Chaparana ercepeae* is known only from the extreme West of Nepal, between 2200 and 2650 m (DUBOIS, 1976; DUBOIS & MATSUI, unpublished), and its presence in the Nanda Devi is also quite possible, but would also be a new record for India. Finally, ANDERS (2002: 275) also reported another species, *Chaparana liebigii* (Gunther, 1860) from extreme western Nepal, but this record is highly open to question and might be based on a confusion with *Chaparana ercepeae*. The westernmost locality known with certainty for *C. liebigii* and based on an identified voucher is Lumsum (28°31'N, 83°17'E ; alt. 1980-2130 m) in central-western Nepal (DUBOIS, 1976: 259).

In conclusion, the region of the Nanda Devi Reserve Biosphere, in medium and high altitude just west of the occidental border of Nepal, certainly harbours frogs of the genus *Chaparana*. The species *C. minica*, present both to the West and to the East of the reserve, is most likely present in the latter. Three other species, *C. ercepeae*, *C. polunini* and *C. rarica*, present in western Nepal, could possibly occur there, whereas, given geographic distance, the presence of *C. vicina* is more unlikely. At any rate, before describing a new species of *Chaparana* from this area, careful comparisons of specimens collected there, including those used to create the nomen "*Rana dhakuriensis*", should be done with reliably identified

specimens of these five species. Until such a work can be carried out, we suggest to place provisionally the latter nomen nudum, with a query, in the synonymy of *Chaparana minica*, together with the nomen *Rana tuberculata* Tilak & Ray, 1985 (see DUBOIS, 1992: 339).

LITERATURE CITED

ANONYMOUS [International Commission on Zoological Nomenclature], 1999 — *International code of zoological nomenclature*. Fourth edition. London, International Trust for zoological Nomenclature: i-xxix + 1-306.

ACHARJI, M. N. & KRIPALANI, M. B., 1951 — On a collection of Reptilia and Batrachia from the Kangra and Kulu valleys, western Himalayas. *Rec. indian Mus.*, **49**: 175-184.

ANDERS, C., 2002 — Class Amphibia (Amphibians). *In* SCHLEICH & KÄSTLE (2002): 133-348.

BLAIR, A. P., 1941. — Variation, isolating mechanisms, and hybridization in certain toads. *Genetics*, **26**: 398-417.

BLAIR, W. F. (ed.), 1972 — 11. Evidence from hybridization. *In*: W. F. BLAIR (ed.), *Evolution in the genus* Bufo. Austin & London, Univ. Texas Press: 196-232 + 382-435.

BOULENGER, G. A., 1920 — A monograph of the South Asian, Papuan, Melanesian, and Australian frogs of the genus *Rana*. *Rec. indian Mus.*, **20**: 1-226.

CHEN, C.-H., 1940. – Notes on a new hybrid toad (*Bufo raddei* ♀ × *Bufo asiaticus* ♂). *Chinese Journal of experimental Biology*, **1**: 335-338.

DELORME, M., DUBOIS, A., GROSJEAN, S. & OHLER, A., 2006 — Une nouvelle ergotaxinomie des Megophryidae (Amphibia, Anura). *Alytes*, **24** (1-4): 6-21.

DUBOIS, A., 1974 — Liste commentée d'Amphibiens récoltés au Népal. *Bull. Mus. natn. Hist. nat.*, (3), **213** (Zool. 143): 341-411.

---- 1975 — Un nouveau sous-genre (*Paa*) et trois nouvelles espèces du genre *Rana*. Remarques sur la phylogenie des Ranides (Amphibiens, Anoures). *Bull. Mus. natn. Hist. nat.*, (3), **324** (Zool. 231): 1093-1115.

---- 1976 — Les Grenouilles du sous-genre *Paa* du Nepal (famille Ranidae, genre *Rana*). *Cahiers nepalais-Documents*, Paris, CNRS, **6**: i-vi + 1-275.

---- 1979 — Notes sur la systematique et la repartition des Amphibiens Anoures de Chine et des régions avoisinantes. II. *Rana blanfordi* Boulenger, 1882, *Rana pohlomi* Smith, 1951 et *Rana yadongensis* Wu, 1977. *Bull. mens. Soc. linn. Lyon*, **48**: 657-661.

---- 1980 — L'influence de l'homme sur la repartition des Amphibiens dans l'Himalaya central et occidental. *C. r. Soc. Biogéogr.*, **55**: 155-178.

--- 1981 — Biogéographie des Amphibiens de l'Himalaya: etat actuel des connaissances. *In*: *Paléogéographie et biogéographie de l'Himalaya et du sous-continent indien*, Paris, CNRS: *Cahiers népalais*: 63-74.

--- 1988 — The genus in zoology: a contribution to the theory of evolutionary systematics. *Mem. Mus. natn. Hist. nat.*, (A), **140**: 1-123.

-- 1992 — Notes sur la classification des Ranidae (Amphibiens, Anoures). *Bull. mens. Soc. linn. Lyon*, **61** (10): 305-352.

--- 2000 — The influence of man on the distribution of amphibians in the Himalayas of Nepal: an example of critical evaluation of biogeographical data. *In*: G. MIEHE & Y. ZHANG (ed.), *Environmental changes in high Asia*, *Marburger geogr. Schriften*, **135**: 326-345.

---- 2004*a* — Book review: Amphibians of Nepal: a few words of caution. *Alytes*, **21** (3-4): 174-180.

---- 2004*b* — Developmental pathway, speciation and supraspecific taxonomy in amphibians. 2. Developmental pathway, hybridizability and generic taxonomy. *Alytes*, **22** (1-2): 38-52.

DUBOIS, A., CROMBIE, R. I. & GLAW, F., 2005 — *Amphibia Mundi*: 1. 2. Recent amphibians: generic and infrageneric taxonomic additions (1981-2002). *Alytes*, **23** (1-2): 25-69.

DUBOIS, A. & MARTENS, J., 1977 — Sur les Crapauds du groupe de *Bufo viridis* (Amphibiens, Anoures) de l'Himalaya occidental (Cachemire et Ladakh). *Bull. Soc. zool. Fr.*, **102**: 459-465.

DUBOIS, A. & MATSUI, M., 1983. A new species of frog (genus *Rana*, subgenus *Paa*) from western Nepal (Amphibia: Anoura). *Copeia*, **1983:** 895-901

FLINDT, R & HEMMER, H., 1967. Nachweis natürlicher Bastardierung von *Bufo calamita* und *Bufo viridis*. *Zool. Anz.*, **178** (5-6): 419-429.

FROST, D. R., GRANT, T., FAIVOVICH, J., BAZIN, R. H., HAAS, A., HADDAD, C. F. B., DE SÁ, R. O., CHANNING, A., WILKINSON, M., DONNELLAN, S. C., RAXWORTHY, C. J., CAMPBELL, J. A., BLOTTO, B. L., MOLER, P., DREWES, R. C., NUSSBAUM, R. A., LYNCH, J. D., GREEN, D. M. & WHEELER, W. C., 2006 – The amphibian tree of life. *Bull. amer. Mus. Nat. Hist.*, **297**: 1-370

GROSJEAN, S. & DUBOIS, A., 2006. Description of advertisement calls of six species of the genus *Chaparana* (Ranidae) from Nepal and India. *Alytes*, **23** (3-4): 103-122

HEMMER, H., 1973. Die Bastardierung von Kreuzkröte (*Bufo calamita*) und Wechselkröte (*Bufo viridis*). *Salamandra*, **9** (3-4): 118-136

HEMMER, H. & BOHME, W., 1974 – Nachweis natürmicher Bastardierung der Erdkrote (*Bufo b. bufo*) mit der Wechselkrote (*Bufo v. viridis*) in Theinland (Salientia, Bufonidae). *Salamandra*, **10** (3-4): 126-130

KRIPALANI, M., 1952 – On Indian tadpoles with a suctorial disc. *Rec. indian Mus.*, **50**: 359-366, pl. 8.

MOORE, J. A. 1955. – Abnormal combinations of nuclear and cytoplasmic systems in frogs and toads. *Adv. Genet.*, **7**: 139-182

NANHOE, L. M. R. & OUBOTER, P. E., 1987 – The distribution of Reptiles and Amphibians in the Annapurna-Dhaulagiri region (Nepal). *Zoologische Verhandelingen uitgeven door het Rijksmuseum van natuurlijke Historie te Leiden*, **240**: 1-105

OHLER, A. & DUBOIS, A., 2006. Phylogenetic relationships and generic taxonomy of the tribe Paini (Amphibia, Anura, Ranidae, Dicroglossinae), with diagnoses of two new genera. *Zoosystema*, **28** (3): 769-784.

RAY, P., 1992. Two new hill-stream Frogs of the genus *Amolops* Cope (Amphibia: Anura: Ranidae) from Uttar Pradesh (India). *Indian Journal of Forestry*, **15** (4): 346-350.

----- 1997. Amphibia. *In* J. R. B. ALFRED, (ed.), *Fauna Nanda Devi Biosphere Reserve*, Calcutta, Zoological Survey of India, *Fauna of Conservation Areas*, **9**: 109-114

----- 1999 – Systematic studies on the amphibian fauna of the district Dehradun, Uttar Pradesh, India. *Memoirs of the zoological Survey of India*, **18** (3): 1-102.

SCHLEICH, H. H. & KASTLE, W. (ed.), 2002. *Amphibians and Reptiles of Nepal*. Koenigstein, A. R. G. Gantner Verlag Kommanditgesellschaft: [i-ii] + i-x + 1-1201.

SCHEYTER, F., HOGLUND, J. & STRÖMBERG, G., 1991. Hybridization and low numbers in isolated populations of the natterjack, *Bufo calamita*, and the green toad, *B. viridis*, in southern Sweden: possible conservation problems. *Amphibia-Reptilia*, **12**: 267-281.

STÖCK, M., BREITSCHNEIDER, P. & GROSSE, W.-R., 2001. The mating call and male release call of *Bufo raddei* Strauch, 1876 with some phylogenetic implications. *Russ. J. Herp.*, **7** (3): 215-226.

TILAK, R. & RAY, P., 1985 – Description of a new species of the sub-genus *Rana* (*Paa*) Dubois from Chakrata Hills, district Dehra Dun, Uttar Pradesh, India (Ranidae, Anura). *Zool. Anz.*, **215**: 231-239

YANG, D., 1991 [28 February] Phylogenetic systematics of the *Amolops* group of ranid frogs of Southeastern Asia and the Greater Sunda Islands. *Fieldiana: Zoology*, (n.s.), **63**: i-iii + 1-42. [Publication date according to cover of publication, not 18 February as stated in FROST et al. 2006: 253]

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APPENDIX 1
MISCELLANEOUS TAXONOMIC COMMENTS ON THE GENUS *AMOLOPS*

Some of the current taxonomic problems pointed out above in the genus *Amolops* simply came from quick and careless reading of the works of colleagues, as exemplified in several cases below

(1) YANG (1991: 16) wrote: "Dubois (1974) suggested *A. kaulbacki* is probably a subspecies of *A. afghanus*", whereas DUBOIS (1974: 361) had suggested that *A. kaulbacki* might be a subspecies of *A. formosus*.

(2) YANG (1991) completely ignored the synonymisation by DUBOIS (1974) of *A. himalayanus* with *A. formosus*, although it was based on statistical comparisons of series of specimens. YANG (1991), followed by FROST et al. (2006: 367), recognized both species but did not even compare them in their respective diagnoses.

(3) Quite similarly, FROST et al. (2006: 252) wrote "Dubois (2000: 331; 2004a: 176) suggested, on the basis of the examination of the holotype, this taxon [*Amolops nepalicus*] is synonymous with *Amolops formosus*", whereas DUBOIS (2000: 333, 335) had considered *A. nepalicus* a synonym of *A. marmoratus*. Such gross misquoting testify to poor attention given to the publications at stake.

(4) FROST et al. (2006: 252) further complained that "[Dubois] did not provide any discussion regarding the differences itemized in the original description or the diagnostic differences noted by Yang (1991b)". Beside the absence of meaning of "or" in this sentence (as the original description of *A. nepalicus* was indeed in YANG, 1991), this statement is misleading, as *a single* difference was stated by YANG (1991: 23) to distinguish *A. nepalicus* from *A. afghanus* (now *A. marmoratus*): "*A. nepalicus* differs (...) from *A. afghanus* in having the vomerine tooth groups oblique instead of transverse", which, to experienced taxonomists nowadays, is at least a doubtful criterion for species recognition. The description of *A. nepalicus* from *a single* adult male and 5 tadpoles (without any information on their locality data and on the reasons for their allocation to the same species as the adult male), without any morphological or statistical comparison with the many adults of *A. marmoratus* available from Nepal (e.g., 39 ♂, 9 ♀, 7 juveniles and 14 tadpoles listed in DUBOIS, 1974: 397-398), looks more like a 19th century's typological description, ignoring intraspecific variability, than like a recent taxonomic work, and it is surprising to see subsequent support for such a hasty work (ANDERS, 2002; FROST et al., 2006).

(5) Instead of "resurrecting" specific synonym nomina without any evidence (e.g., *A. himalayanus* and *A. nepalicus*, but also *Rana barmoachensis* Khan & Tasnim, 1979, synonymized with *R. hazarensis* by DUBOIS, 1992), FROST et al. (2006) could have cared for presenting a consistent generic taxonomy of frogs of this complex. It is thus difficult to understand on which basis they put some species in two different genera, although at least morphologically they are very similar and appear very closely related (e.g., *Rana monticola* Anderson, 1871 (placed by them in *Amolops* Cope, 1965) and *Rana archotaphus* Inger & Chan-ard, 1997 (placed by them in *Hua* Yang, 1991, but which should probably rather be known as *Amolops archotaphus*).

(6) As explained by DUBOIS (2004a), the specimens referred by ANDERS (2002) to *Amolops monticola* are in fact *Amolops formosus*, whereas they described their specimens of *Amolops monticola* as "*Polypedates* species, not identified".